

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

GRIFFITHS et al.

Serial No.: 10/064,846

Filed: 22 August 2002

For: Communication Systems For Use With  
Magnetic Resonance Imaging Systems

Art Unit: 2859

Confirmation No.: 3127

Examiner: Shrivastav, Brij B.

COVER SHEET

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir/Madam:

Applicants hereby submit the following documents to the U.S. Patent and Trademark Office to make sure they are included in the official record. The documents detail a record of all communications had between the undersigned and the examiner, initiated by the latter, regarding matters touching on the merits of the application inclusive of issues pertaining to patentability of claims.

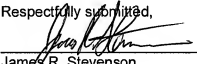
- **Email** dated January 19, 2007, 4:05 p.m., sent from the undersigned attorney of record to the examiner; and
- **Interview Summary** dated January 19, 2007, sent from the undersigned attorney of record to the examiner as an attachment to the above e-mail.

Upon receipt of the *Notice of Allowance* of this application, the undersigned checked the Patent Application Information Retrieval (PAIR) system to ascertain whether the above documents were, as sought by the undersigned, made of record. As of the date of this submission, the above documents do not appear to have been made of record.

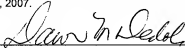
Applicants therefore request that all correspondence submitted herewith be included within the file wrapper of the above-referenced application.

Date: March 5, 2007

Respectfully submitted,

  
James R. Stevenson  
Reg. No. 38,755

I hereby certify that this correspondence is being submitted electronically to the United States Patent and Trademark Office on March 5, 2007.

  
(Dawn M. Dedola)

Medrad, Inc.  
One Medrad Drive  
Indianola, PA 15051  
37-2400 x3021

**Stevenson, James R.**

**From:** Stevenson, James R.  
**Sent:** Friday, January 19, 2007 4:05 PM  
**To:** 'brij.shrivastav@uspto.gov'  
**Subject:** Document Requested for U.S. App 10-064,846  
**Attachments:** Interview Summary (19Jan2007).pdf

**U.S. Application:** 10/064,846  
**To:** Brij B. Shrivastav, USPTO  
**Subject:** *Summary of Telephone Interview*

Dear Mr. Shrivastav:

Attached is the document you requested, specifically a response to the proposed rejection of claim 25.

Thank you for your attention to this matter.

Please confirm receipt of this e-mail.

Regards,

James R. Stevenson  
Patent Counsel  
MEDRAD, Inc.  
(412) 767-2400 x3280

-----  
This email and any attachments contain information from MEDRAD, Inc., which may be confidential and/or privileged. The information is intended to be for the sole use of the individual or entity named in this email. If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of the contents of this email is prohibited. If you receive this email in error, please notify us immediately by reply email and destroy this e-mail and all of its attachments. Thank you.  
-----

3/5/2007

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	)	Group Art Unit: 2859
GRIFFITHS et al.	)	
Serial No.: 10/064,846	)	Confirmation No. 3127
Filed: 22 August 2002	)	Examiner: Shrivastav, Brij B.
Title: COMMUNICATION SYSTEMS FOR	)	Docket No. MR/02-023
USE WITH MAGNETIC RESONANCE	)	
IMAGING SYSTEMS	)	Date: 19 January 2007

---

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**INTERVIEW SUMMARY**

Dear Sir:

Applicants, through their undersigned attorney, acknowledge having had an interview by telephone with Mr. Shrivastav, the above-cited examiner (hereafter referred to as the "Examiner"), on 18 January 2007 concerning the patent application cited above. Initiated by the Examiner, the interview consisted of two telephone calls concerning the matter discussed below..

During the first of the telephone calls, the Examiner advised the undersigned that he had undertaken a search for prior art relevant to the forty-eight (48) pending claims and, as a result of that search, found two prior art references relevant to the subject matter recited in independent claim 25. Specifically, the Examiner stated his belief that U.S. Patent 5,464,014 to *Sugahara* and U.S. Patent Application Publication 2003/0058502A1 to *Crutchlow* et al. together could form the basis of a rejection under 35 U.S.C. §103(a) of claim 25. In addition, the Examiner indicated that he believed the remaining claims were allowable. Upon informing the undersigned of the foregoing, the Examiner asked the undersigned if he would like to review the aforementioned references and then provide a response relative to the proposed rejection of claim 25. The undersigned responded in the affirmative, advising the Examiner that he would respond by telephone later in the day.

During the second of the two telephone calls, the undersigned provided a verbal response to the proposed rejection of claim 25, which is reproduced below.

25. An antenna coupling for communicating across a barrier to radio frequencies, said antenna coupling comprising:
- (a) a first antenna positioned on a first side of said barrier;
  - (b) a second antenna positioned on a second side of said barrier, said first and said second antennas interconnected through said barrier to enable a desired range of said radio frequencies to be transmissible through said barrier via said first and said second antennas; and
  - (c) a filter connected between said first and said second antennas to prevent radio frequencies outside of said desired range from being transmitted across said barrier.

In that regard, the undersigned made the following arguments in support of the patentability of claim 25 over the cited references. The references, separately or combined, neither teach nor suggest the antenna coupling recited in claim 25. Specifically, the *Sugahara* patent discloses a display device on which the vital signs of a patient can be displayed during a magnetic resonance imaging (MRI) procedure. As shown in Figures 1a & 1b for one embodiment, electrocardiographic (ECG) and blood pressure (BP) signals are obtained from a patient in a scanner room of an MRI suite. These signals are conveyed from electrodes 5 attached to the patient, amplified by a preamplifier 6, then fed via a cable B that passes through the shield (barrier) separating the scanner and control rooms and then supplied to display monitor 7 in the control room for display on display 7a. These signals are then fed to a video converter 8 wherein they are converted to NTSC video type signals and displayed on display 8a. These NTSC video signals are also routed from the video converter 8 to a switch box 9 and then passed back through the barrier via cable A to interface box 2. In the scanner room, the NTSC video signals are then conveyed to display device 10 where they appear on display 10a. Figure 7 of the *Sugahara* patent illustrates another embodiment very similar to that shown in Figures 1a and 1b.

Relevant to the issue at hand, the ECG and BP signals are passed from the patient in the scanner room through the barrier via one cable (i.e., cable B) for display in the control room on displays 7a and 8a. Video converter 8 then converts these electrophysiologic signals to NTSC video type signals, which are then passed back through the barrier via another cable (i.e., cable A) for display on display 10a back in the scanner room. The *Sugahara* patent also notes that the video signals may be conveyed across the barrier via a fiber optic cable (or light transmitter and light receiver units juxtaposed on opposite side of the viewing window). (col. 6, lines 47-59) Consequently, the *Sugahara* patent fails to disclose anything like the antenna coupling claimed in claim 25. In fact, the *Sugahara* patent makes no mention whatsoever of an "antenna" let alone to an antenna coupling designed to enable the conveyance of radio frequency (RF) energy across a barrier to same. Nor does it contain any teachings relating to a filter connected between the first and second antennas of such an antenna coupling.

The *Critchlow* publication discloses an injection system 100 for an MRI suite, as best shown in Figure 1. This injection system includes an injection apparatus 105 in the scanner room and a control unit 110 therefor in the control room. Figure 2 shows a base assembly 200 of the injector apparatus 105. As best shown in Figure 1, the base assembly 200 includes an interface box for use in transmitting signals to and from the control unit 110 in the control room. Specifically, the *Critchlow* publication teaches the use of a fiber optic cable 140 by which this communication between the scanner room (injection apparatus 105) and control room (control unit 110) takes place. (Paragraph [0038]) As an alternative to communication via the fiber optic cable 140, the *Critchlow* publication teaches the use of an optical transceiver link 146 across window 148 of the barrier. It also suggests that a wireless RF link could be employed as the interface. (Id.)

*Interview Summary*

U.S. Application Serial No.: 10/064,846

Art Unit: 2859

Page 4 of 4

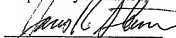
The *Critchlow* publication fails, however, to contain any teachings directed to an antenna coupling as recited in claim 25. In fact, the only reference to the word "antenna" in the *Critchlow* publication is made in the context of the screw holes in the electromagnetically-shielded base assembly 200, as they could act as slotted antennas which are unwanted. (Paragraph [0043])

Based on the foregoing, the undersigned concluded his verbal response to the proposed rejection by submitting that the *Sugahara* and *Critchlow* references could not and cannot render obvious the subject matter recited in claim 25. The undersigned then respectfully requested that the proposed rejection of claim 25 under 35 U.S.C. §103(a) be reconsidered.

Lastly, at the end of the second of the two telephone calls, the Examiner and the undersigned agreed that the latter would submit this interview record to the Examiner by e-mail at [brij.shrivastav@uspto.gov](mailto:brij.shrivastav@uspto.gov). The undersigned now respectfully requests that this interview summary be entered into the record for this application for patent, and that a e-mail be sent to the undersigned confirming receipt of this interview summary.

If the Examiner has any further questions regarding this application for patent, he is invited to contact the undersigned at the number listed below.

Respectfully submitted,



James R. Stevenson  
Attorney for Applicant  
Registration No. 38,755

MEDRAD, Inc.  
One Medrad Drive  
Indianola, PA 15051-0780  
TELEPHONE: (412) 767-2400 x3280  
FACSIMILE: (412) 767-8899